

## **REMARKS/ARGUMENTS**

Reexamination of the captioned application is respectfully requested.

### **A. SUMMARY OF THIS AMENDMENT**

By the current amendment, Applicants basically:

1. Editorially amend the specification.
2. Editorially amend all claims for comformane to U.S. practice.
3. Add new claim 13.
4. Requested acknowledgement of applicant's claim for priority.
5. Respectfully traverse all prior art rejections.
6. Advise the Examiner of the simultaneous filing of a Petition to Extend.

### **B. THE NEW CLAIMS**

New independent claim 13 is directed to a computer program product comprising instructions stored on a storage medium which, when executed, performs some of the acts of independent claim 1. Support for a computer program product claim resides, e.g., in Fig. 12 and text describing same as well as in the paragraph on page 23, lines 17 – 18, of the specification.

### **C. PATENTABILITY OF THE CLAIMS**

Claims 1 - 12 stand rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,973,638 to Robbins in view of U.S. Patent 6,351,243 to Derneryd et al . All prior art rejections are respectfully traversed for at least the following reasons.

U.S. Patent 5,973,638 fails to teach or suggest a solution comprising the combination of features in the present independent claims 1, 7, and 13. Moreover, U.S. Patent 6,351,243 does not help a person skilled in the art to modify the device and method in U.S. Patent 5,973,638.

The office action first refers to col. 8, lines 25-27 and states that U.S. Patent 5,973,638 teaches “weighting” which, according to the office action, is a well known technique when combining (summing) gain, phase and time interval. The office action also alleges that it is obvious that U.S. Patent 5,973,638 teaches the finding of the maximum point/gain since U.S. Patent 5,973,638 teaches the array has its maximum response in the beam pointing direction.

Applicant’s independent claims concern an antenna comprising a number of antenna elements that are used during reception of a signal from a target. At first, all antenna elements are used for producing a radiation diagram. However, in one or more time sequences (e.g., time sequence t1, t2, t3, etc.) the number of antenna elements is reduced for each respective point in time (t1, t2, t3, etc.). Each time the antenna elements are reduced, a different radiation diagram is generated, with different amplitudes of the main lobe and of the side lobes. The maximum point is found in a first radiation diagram and then used in a consecutive radiation diagram in order to allow “zooming”. Here, zooming refers to where immediately positioned antenna elements are turned off with increased side lobes as a consequence. The ultimate zoom is achieved with only the outermost antenna elements remaining, see for example, Fig. 1 t4 and Fig. 5. Should the position of the main lobe not be known, it would be hard to find the side lobes in Fig. 5 due to the high side lobes. Hence, it is not as trivial as the office action alleges to arrive at the claimed solution by merely reading U.S. patent 5,973,638 and being presented already well familiar information that signals from different antenna elements can be summed over time. This information gives neither hint nor direct information to a person skilled in the art that would lead to the claimed combination of features. On the contrary, the person skilled in the art would be misled to believe that by summing ambiguously over time a perfect and easily detected radiation diagram is at hand. Furthermore, U.S. Patent 5,973,638 does not teach that any of the antenna elements are supposed to be turned off in order to create a different radiation diagram. Hence, U.S.

patent 5,973,638 is completely silent on the claimed technique and only describes the commonly known technique to sum the gain.

U.S. Patent 6,351,243 teaches that an antenna array in which the antenna elements are positioned in a selected pattern in order to minimize side lobes (col. 2, lines 35-61). Hence U.S. Patent 6,351,243 teaches but another solution to the side lobe problem with . U.S. Patent 6,351,243 does not teach that the antenna elements can be turned off in order to get different radiation patterns. Hence, U.S. Patent 6,351,243 cannot provide a solution that allows zooming.

#### **D. REQUEST ACKNOWLEDGEMENT OF THE CLAIM FOR PRIORITY**

Applicant respectfully requests the Examiner to acknowledge receipt of the priority document.

#### **E. INFORMATION DISCLOSURE STATEMENT**

Applicant believes that the Examiner is aware of Applicant's co-pending application 10/520,935, also handled by this Examiner, which has some commonality with the present disclosure.

#### **F. MISCELLANEOUS**

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

NUMMINEN  
Serial No. 10/520,932

**Atty Dkt:** 3670-56  
**Art Unit:** 3662

Respectfully submitted,

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